Summer 1999 Number 8

ENVIRONMENTAL REPORT

U. S. ARMY SOLDIER SYSTEMS CENTER • NATICK LABS • NATICK, MASSACHUSETTS

Warehouse Area Proposed Plan Issued

On August 23, 1999, the Solider Systems Center issued the Proposed Remedial Action Plan (Proposed Plan) for the Warehouse Area (often referred to as the T-25 Area) at the former Natick Labs. The proposed cleanup option for the contaminated underground water includes extraction and treatment by air stripping/carbon adsorption with monitored natural attenuation combined with institutional controls.

The proposed plan explains the different options being evaluated for groundwater cleanup and presents the Army's recommendation of the preferred option. Options evaluated range from doing nothing (no action) — an alternative required for consideration by federal law — to groundwater extraction with various treatment options. The five alternatives evaluated included:

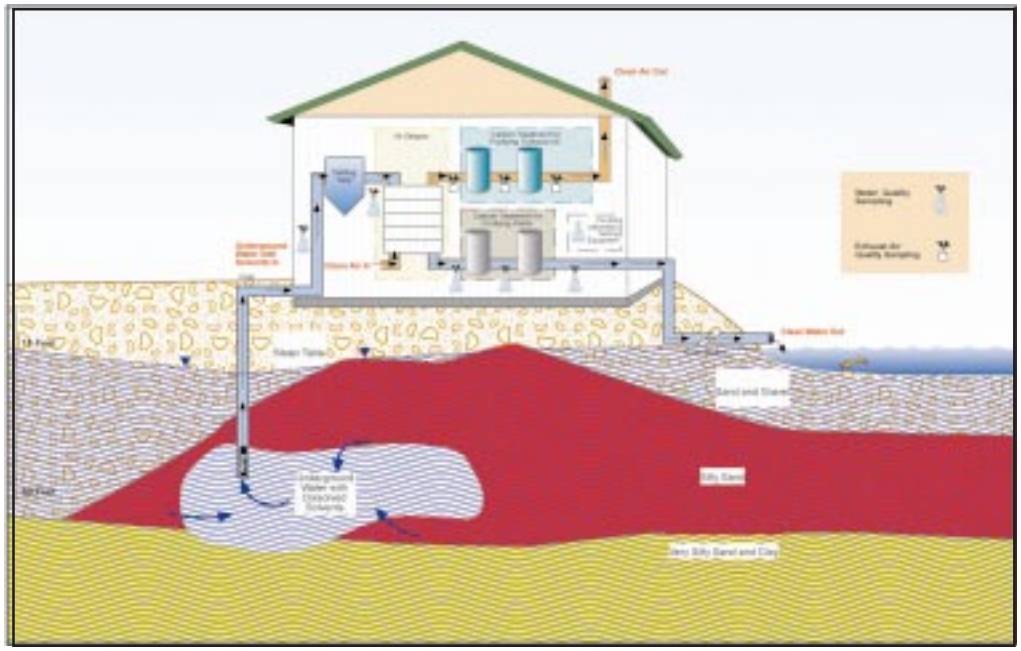
Alternative 1: No action

Alternative 2: Limited Action with Institutional Controls, Monitoring and Monitored Natural Attenuation (MNA)

Alternative 3: Groundwater Extraction with Air Stripping/Carbon Adsorption, Institutional Controls, Long-Term Monitoring and MNA

Alternative 4: Groundwater Extraction with Liquid-Phase Activated Carbon, Institutional Controls, Long-Term Monitoring and MNA

Alternative 5: Groundwater Extraction with Ultraviolet/Oxidation, Institutional Controls, Long-Term Monitoring and MNA



The treatment system building pictured above has been operating since November 1997 treating a total of 29 million gallons of underground water that contained PCE and TCE. After being cleaned and treated the water is discharged into Lake Cochituate.

Comment Period

The proposed plan was sent to interested groups and individuals in August 1999 for their review. The public is encouraged to provide oral or written comments before September 24, 1999.

The 30-day comment period for the Proposed Plan is from August 24 through September 24, 1999. During this time, the Army, U.S. Environmental Protection Agency (EPA), and the Massachusetts Department

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of Environmental Protection (MADEP) welcome your input before final decisions are made. You can comment on the Proposed Plan verbally at the public hearing on September 16, 1999 or through correspondence with John McHugh at the Soldier Systems Center. (*Please see page 4 for contact information*).

The Preferred Remedy

The Army has investigated the T-25 Warehouse Area and documented its findings in a series of site investigation and feasibility reports. These reports are available, along with the Proposed Plan, at the information repositories listed on page 4. The Army, working with the EPA, MADEP, and the Restoration Advisory Board (RAB), has evaluated the available data and recommended its preferred remedy (Alternative 3). The remedy consists of the following components:

C Ground water extraction and treatment using air stripping and carbon adsorption equipment;

C Monitored Natural Attenuation - natural biological and physical processes will reduce contaminant levels in-situ (*see page 3);*

C Institutional Controls - restrict use of private water wells, which will not be allowed by the Natick Board of Health around affected groundwater; and

C Long-Term Monitoring - a network of monitoring wells will be sampled and the data evaluated to assess the cleanup's effectiveness. Data will be evaluated, reported annually, and formal five-year reviews will be conducted with EPA and MADEP.

C To further protect public health and safety, the Army has made a commitment to participate in the operation of treatment systems at the town of Natick Springvale Treatment Plant.

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Pump and Treat System Update

Soldier Systems Center has been continuously collecting and evaluating data from the underground water pump and treat system since November 1997 as part of the Treatability Study. The treatment system consists of a low-profile air stripping unit combined with activated carbon adsorption canisters. The air stripping unit forces air through the contaminated underground water and removes the PCE and TCE into the air stream. As a safeguard, water is then treated by passing it through carbon-filled tanks. Any residual dissolved solvents in the water attach to the carbon. Exhaust air resulting from the air stripping process is also passed through carbon adsorption equipment to trap any dissolved TCE and PCE, and is monitored regularly to ensure that clean air is released into the atmosphere.

This system has removed the target contaminants, PCE and TCE, from the underground water. All treated underground water is tested and then discharged to Lake Cochituate.

As of April 1999, the system has treated a total of 29 million gallons of underground water containing PCE and TCE with good results. In addition, the extraction well system is successfully containing and preventing the migration of contaminants from the site. Chemical data have also shown significant decreases in PCE and TCE concentration in the underground water after only one year of operation. •

The control panel, a crucial part of the treatment system, records data 24 hours a day.

New RAB Members Begin Term

The Restoration Advisory Board (RAB) held a meeting on Thursday, March 4, 1999 to educate the community about the RAB and to recruit citizens interested in serving on the board. Approximately 20 community members attended the meeting. Eight individuals applied for the open RAB positions. The positions on the RAB are for a term of three years. The eight new members included three environmental professionals, four residents representing the neighborhoods north and east of the installation, and one retired military personnel. The first official meeting for the new members was on June 3rd.

In May, the Army held an orientation and training session for the new members. The new members will also have the opportunity to work with the outgoing and current RAB members in order to provide a smooth transition to the board.

The RAB is a citizen's group comprised of representatives from the town of Natick, US Army, EPA, MADEP, and community members. The group meets seven or eight times a year to discuss the cleanup at the site. RAB members help guide the cleanup activities, set priorities and share community concerns through these meetings. •

Thank You RAB Members
Welcome New RAB Members

Dear RAB Members,

I would like to thank you for your dedicated service over the last three years on the U.S. Army Soldier Systems Center Restoration Advisory Board (RAB). It has been a very productive time in our environmental cleanup and we have accomplished a great deal together. At this time several members are retiring from the RAB. Special thanks to:

- Ms. Dori Ross
- Ms. Theresa Crespi
- Mr. Jon Beekman
- Mr. Charles Murphy

Sincerely,

John McHugh
Restoration Officer

Technology Information: Monitored Natural Attenuation

Monitored natural attenuation is an effective cleanup process that occurs naturally in the environment and is often chosen as part of site cleanup plans. Monitored natural attenuation works through physical and biological processes. These processes are also referred to as intrinsic bioremediation, bio attenuation, or intrinsic remediation.

A combination of the following biological and physical processes work to reduce the amount of contaminants in groundwater.

C Biodegradation: naturally occurring organisms (bacteria, fungi and yeast) in the soil, sediment and water eat organic chemicals and break them down into primarily carbon dioxide and water.

C Dilution and Dispersion: physical processes that do not destroy the contaminant but reduce its concentration or levels.

C Adsorption: contaminants may naturally attach to underground particles (soil, clay, organic matter) and prevent the contaminants from moving within the environment, and tends to reduce the concentration levels in the groundwater.

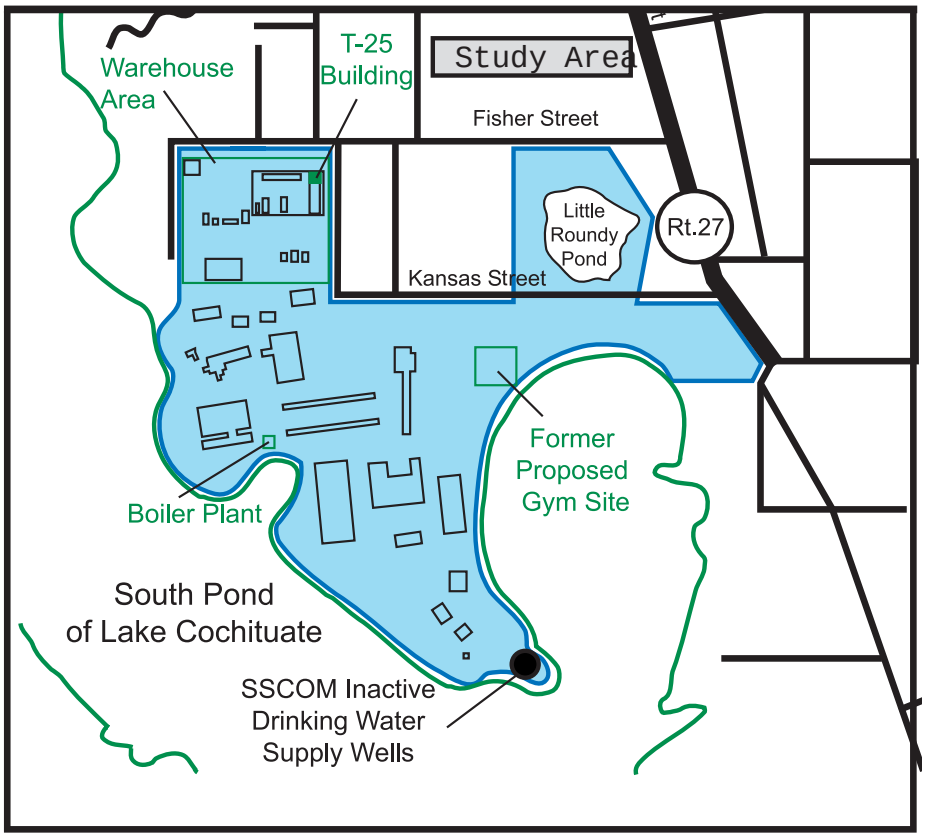
C Monitoring: Continued, regular sampling designed to measure the progress of the above remediation processes. •

Soldier Systems Center Study Areas

Soldier Systems Center's environmental cleanup program is busy evaluating conditions at four sites: the Warehouse Area, Former Proposed Gym Site, Inactive Water Supply Wells and the Boiler Plant Site.

Warehouse Area (T-25)

The Warehouse Area is located at the north end of the site installation. This area is near the T-25 building and has been under investigation for several years because dissolved solvents and degreasers (TCE and PCE) have been found at levels higher than drinking water standards in underground water 30 to 62 feet below ground surface. Current data indicate that the movement of this water is very slow and that affected water is being contained close to the Warehouse Area as a result of the Army's pump and treat activities. The Treatability Study has provided data needed to better understand underground water movement. *(See page 1 to review the cleanup alternatives for this site as discussed in the Proposed Plan).*



The areas at the Soldier Systems Center currently being studied include the Warehouse Area, the Former Proposed Gym Site, Inactive Water Supply Wells and the Boiler Plant Site.

Former Proposed Gym Site

The Former Proposed Gym Site is located south of the entrance to the installation. Construction workers noticed a petro-

(Continued on next page)

Please Visit the Information Repositories

The following information repositories are open to the public and contain major reports and documents related to the site cleanup.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
Federal Facilities
1 Winter Street, 7th Floor
Boston, MA 02108
(617) 292-5732

Morse Institute
Reference Section
14 East Central Street
Natick, MA 01760
(508) 651-7300

US Army Soldier Systems Center
Environmental, Health and Safety Office
Building 4, Room D-105
Kansas Street
Natick, MA 01760-5049

Natick Board of Health
Town Hall
13 Central Street
Natick, MA 01760
(508) 651-7244

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leum odor in the soil when preparing to build a new gymnasium. Low concentrations of various chemicals were found in the soil. The source of these chemical concentrations is unclear since the area was previously used as a helicopter pad and is next to a public sewer line that occasionally overflows in the spring. The draft remedial Investigation Report was released in January 1999. The draft Remedial Investigation Report is available for public review at the information repositories listed on page 4. The Final Remedial Investigation Report is expected to be released in Winter 1999.

Inactive Water Supply Wells

The Inactive Water Supply Wells are located on the southern peninsula of the installation. The Army performed a passive soil gas survey, collected samples near supply well #2, installed four on-post wells and one off-post well, and collected quarterly ground water samples to identify and investigate the contamination.

TCE and PCE have been detected in each of the five wells installed around the supply wells but have consistently decreased since the supply wells have been taken off-line.

Soldier Systems Center is awaiting comments on the draft Remedial Investigation and is hoping to finalize it in Spring 2000.

Boiler Plant Site

The Army built the Boiler Plant on the western side of the installation in the 1950s. The Boiler plant floor drained and a concrete blow-down tank emptied into a leach field on the southern side of the building. In the mid 1980s. the drains were redirected to empty into the sanitary sewer system, but contaminated oil was not cleaned up.

In 1990, a storage tank was removed and replaced. The Army installed five groundwater wells to assess the potential impacts from fuel contamination. During the installation of an oil/water separator in December 1995, investigators found oil stained soil and began sampling underground water quarterly. So far, compounds have not been found.

During the investigation of the Boiler Plant in June 1998 the Soldier Systems Center collected data to support a comprehensive Phase I Site Assessment and Investigation for the fuel release area; identified the nature and distribution of potential contaminants; and defined the geologic and hydrogeologic conditions and assessed site conditions for the potential removal of Building T-23 (pumphouse) and the existing water intake structure. The field work concluded in December 1998.

The report explaining the findings is expected in Fall/ Winter 1999. •

Warehouse Proposed Plan

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It is expected that the pump and treat system will operate for approximately 10 years, to be shut down only after a significant reduction of trichloroethylene (TCE) and perchloroethylene (PCE) levels. Additionally, it is estimated that monitored natural attenuation of the underground water will take 17 years to further reduce contaminant levels. Monitoring will continue during this time to evaluate the effectiveness of the cleanup plan. •

How to Contact Us

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U.S. Environmental Protection Agency
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Restoration Advisory Board Community Co-Chair
Marco Kaltofen (508) 653-6588
[kaltofen@aol.com]

ATSDR
Susanne Simon (617) 918-1492

Warehouse Area Proposed Plan Public Meeting

The Soldier Systems Center invites you to attend an information meeting to learn more about the Proposed Plan. The Army is also holding a public hearing to allow the public to comment on the Army's proposed cleanup plan for the underground water. Written comments may be submitted at the hearing or sent to John McHugh, Environmental, Safety, and Health Office.

Information Meeting	Public Hearing
Thursday, September 9, 1999	Thursday, September 16, 1999
Begins at 7 p.m. Main Fire Station 22 E. Central Street Natick, MA	Begins at 7 p.m. Main Fire Station 22 E. Central Street Natick, MA

Soldier Systems Center
Environmental Report

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We look forward to hearing from you.